Healthy Communities, Healthy Animals: Reconceptualizing Health and Wellness

Preliminary Discussion Paper

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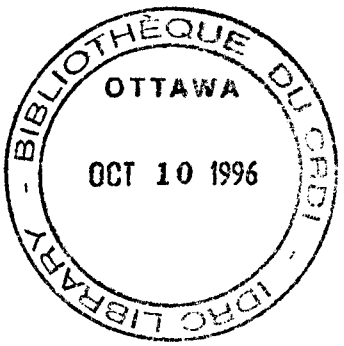

"I have to feed the animals, for our livelihood depends on them. We have to take more care of our animals than our children." (Punjabi rural woman, quoted in Carpenter, 1991:70)

Overview

The following paper attempts to expand the parameters of Western notions of health beyond a gendered and reductionistic biomedical model[1] which, under the ideological framework of a hegemonic western science (Cashman, 1991; Rocheleau, 1991) has tended to dismiss other (ie. indigenous) approaches to both human and animal health. Using the area of animal health as a focal point, the discussion argues for an approach to health that is not only gender-informed, but also appreciates the intricate interdependent relationships between animal and human health.

In moving towards a broader conceptualization of health, the following paper focuses on three areas in particular: 1) the connections between animal health, human health, and sociocultural, political, and economic structures; 2) the current state of ethnoveterinary research and lack therein of gender-disaggregated knowledge systems; and 3) the gendered state of a reductionistic, mechanistic western science from which the biomedical model evolved. From both a conceptual and pragmatic point of view, revisiting the realm of animal health is a valid endeavour.

I argue for a conceptualization of health which encompasses self- and community-diagnosed perceptions of physical and mental "wellness" defined in terms of choice, control, knowledge, understanding, and awareness; and which considers political, economic and social stressors.

The disciplines from which the following discussion is drawn include: Ethnoveterinary studies (Veterinary Anthropology); Agropastoral and Farming Systems Research; Animal

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[1] As Sindiga (1992: 41) points out, there is much confusion between the terms used to describe the dominant system of medicine; it is at once called "biomedical," "modern," and "western." I prefer the usage of "biomedical" to better represent the underlying paradigm which derives from such scientific disciplines as biology, physiology, etc.

Husbandry; Feminist critiques of Science; Feminist Postmodernism; Community Animal Health; Human and Animal Health Systems; Gender and Environment; Indigenous Knowledge (including Health Practices); and finally Biodiversity and Intellectual Property Rights (IPR).

I. Contextualizing Wellness: Animals, Humans, Gods, and Bureaucracy

Western science increasingly acknowledges that which other knowledge bases have understood and protected for millennia - that human and animal health are intrinsically linked, together with the environment as a whole (McCorkle, 1989a; Carpenter, 1991; IT Kenya, 1992). Further, healing systems for both are inherently connected, as healers of people often treat animals. McCorkle and Mathias-Mundy (1992: 59) suggest that it is rare to find "veterinary and human aspects of traditional medicine...distinct in terms of practitioners, concepts, materials, and methods." An IDRC-funded study on traditional health in Kenya notes that the Maasai "have wide knowledge of herbal medicine which they use for treating humans and also for conditioning and treating livestock" (Sindiga 1992: 258).

While the research for this paper began out of a need to examine the question of gender-disaggregated knowledge in animal health systems, it soon became apparent that before we attempt such an analysis, we must clarify what we mean by "health." I argue for a definition of health that is not only defined by the absence of "dis-ease," but is associated with factors such as "healthy water and nutrients" and the activities it takes to deliver these to animals; it is also intricately entwined in the broader global politico-economical order and associated structural poverty. Health is both wellness and wellbeing.

I support Wisner's (1976: 82) definition of health as a state of "social wholeness" and draw further from an African context to illustrate the direction I believe we need to move in to reconceptualize health:

> Disease is not merely something resulting from malfunctioning in this or that organ or a lesion therein...but is essentially... a rupture of life's harmony, to be imputed either to a material cause instinct with some "intangible force" or directly to that intangible force itself (Ampofo and Johnson-Romauld, 1978: 40).

That said, I turn to a discussion of the "forces" at play in both animal and human wellness. While some represent potential "interests," "stressors," or threats to human and animal well-being, others are vital to the survival of both. They are both "intangible," ie. "gods," political ideologies, and structural poverty - and tangible, in the sense of food, water, and shelter.

"Bureaucracy"

From the outset, let us be clear that human and animal health systems are linked not only at a very local and tangible level, but also at a less discernible level to the extended social, political, and economic realms of various interests including a "global elite," transnational corporations (TNCs), and governments.

This is no where more clear than in the pharmaceutical industry's current efforts to relocate their "petri dishes" from laboratories to thousands of local communities, in order to "discover" new medicinal botanicals and restrict their use through western-conceived, TNC-benefitting, intellectual property rights (IPR).[2] As Mulvaney and Bell (1992: 3) note, new legislation is in the process of being introduced in northern countries to permit companies to register patents for both specific genes and whole plants.

In societies where the concepts of life and of ownership do not correspond with those inherent in IPR, people and their health practices and medicines are increasingly vulnerable to the appropriation of their innovations (Belcher and Hawtin, 1991: 26-27). With far-reaching political and economic implications, IPR is not so much about "increasing incentive to research," but rather protecting commercial interests and investments (Belcher and Hawtin, 1991: 3).

Interests of another sort are discussed in an evaluation of the Samia Women's Dairy Goat Project (SWDGP), an effort directed at introducing intensive husbandry of dairy goats into an agropastoral area of Western Kenya. Noble (1992a) discusses at length the numerous associated, but often conflicting interests typically involved in "livestock development" projects.

Although Noble concentrates primarily on the question of women's income-generation, the context in which she makes her analysis speaks also to the area of health; the "complex organisational environment," which negatively impacted on the specific objectives of the project, included various levels of ideological interests outside the local community including: a Kenyan woman member of parliament; an individual working with the Friends of the UN; the UNDP Sheep and Goat Development Project; the Ford Foundation; Heifer Project International; the Small Ruminant Collaborative Research Support Project (SR-CRSP); and UNICEF (Noble, 1992a: 138).

While all may have entered the project with noble (albeit individual) intentions, the various interests, and hence criteria, for measuring the project effectiveness, differed (Noble, 1992a: 135-153). Further, "the organisational environment and gender ideology of the major sponsors worked to subvert the (project) goal (Noble, 1992a: 144). Clearly, then, while it may be a less arduous undertaking to identify and understand the relationships between "local" animals and their human community (in this case women and their goats), there are complex interconnecting and overlapping layers of interest, conflict, and even support at play in what actually transpires between "women and their goats."

Elsewhere, McCorkle and Mathias-Mundy (1992) describe the health-adjusted "avoidance" strategies of transhumant pastoralists:

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[2] See Gupta, 1992a; Shiva, 1992; and Reid et al, 1993 for excellent discussions on Intellectual Property Rights and Biodiversity issues.

> Nomadic or transhumant pastoralists' intra- and inter-annual movements not only... seek out forage and water, but also... avoid build-ups of filth and disease agents in camps, grazing grounds, and watering sites to skirt seasonal, locational, or aperiodic threats of disease and/or disease bearing pests and wildlife.

These health strategies are locally appropriate, time-tested, and sustainable, yet other important factors must be considered in their support and promotion. In countries like Kenya, large fenced-off ranches and parks can make transhumant patterns difficult. Increased inmigration into, and settlement of, once so-called "pastoral" regions such as Naibor, Kenya (Hill, 1992) also have an extensive impact on transhumant patterns of "disease" prevention and health regulation.

Animals and Humans

Human and animal health systems are also woven into the larger environment upon which they depend. The very grasses and grains which provide sustenance for both; the herbs and other plants which provide medicines, unguents, tinctures, and ointments; the soil, minerals, rainwater, lakes, oceans, and gases are all essential to humans, animals, and plants.[3] Recently, under an ever-broadening western scientific tradition, disciplines such as Deep Ecology and Ecofeminism[4] have attempted to address, however, controversially, the "deeper" connections between human, non-human, and supernatural environments (Kheel, 1990; Zimmerman, 1990).

While many practitioners and academics have taken issue with these disciplines, their contribution to the expanding debates of "science," and "environment" are undeniable. Their debates suggest a need for "inward transformation" for "outward change." I would argue that in the realm of development, and indeed in the case of animal health efforts, we have for too long attempted to "transpose" western "techno-fixes" conceived within set cultural paradigms onto other cultures (Stamp, 1989; Shiva, 1989; Harrison, 1987).

For example, under the still strong push for modernization (See Rostow, 19??), a western perspective has viewed pastoralism as a "stage of human development, more 'modern' than hunting and gathering but not as modern as settled farming" (Timberlake, 1986: 90). Our so-called efforts to "improve" the lives of pastoralists has therefore resulted

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[3] Harrison, 1987; Timberlake, 1986; and Dankleman and Davidson, 1988 provide thorough practical overviews of the interconnectedness and interdependencies between people and their wider environment.

[4] The emphasis of ecofeminism and deep ecology "is not on an abstract or 'rational' calculation of value but rather on the development of a new consciousness for all of life. Both ecofeminism and deep ecology may therefore be viewed as 'deep' philosophies in the sense that they call for an inward transformation in order to attain an outward change" (Kheel, 1990: 128). Furthermore, the 'central intuition' of deep ecology is that there is no absolute divide between humanity and everything else (Zimmerman, 1990: 141).

in repeated failure due not so much to local factors, but continuing western reluctance to question the underlying paradigm of our intentions. Additionally, even the west's propensity to demarcate "pastoral" in contrast to "agricultural" societies has proven disastrous to development efforts. McCorkle (1992:) notes that rarely is a society strictly agricultural or pastoral.

Finally, at a recent Village Animal Healthcare Workshop held in Kenya, animal health practitioners, anthropologists, and other participants agreed that animal health should never be the only focus of a project, but rather it should be linked to human health, social, political, and economic factors and subsequently environmental issues (IT Kenya, 1992: 48).

Gods, Spirits and Life-giving Energy

Further, health systems for both typically associate the natural with the supernatural through magical, religious, or cosmological means (McCorkle, C. and Mathias-Mundy, E., 1992: 70-71). Throughout many western traditions indoctrinated in so-called value-neutral science and rationality, prayers and traditional blessings are uttered in both human hospitals (McCorkle, C.M. and Mathias-Mundy, E., 1992) and veterinary clinics; people and animals now both have cemeteries. In the west, people often carry "good luck charms" with them into the hospital.

In Pakistan, the birth of a calf and the death of a cow or buffalo are celebrated in rituals involving large groups of villagers (Carpenter, 1991: 67). The Tzotzil in Mexico regard their sheep as sharing a soul with some unidentified human being, and each is protected from the "evil eye" and supernatural diseases by tying blessed ribbons around its neck (Perezgrovas, 1993a: 21). Whether expressly stated or not, a bond is made between animals and people; and sentient beings and supernatural beings or "energies."

While these are often addressed either singly or in combination, albeit usually in a very concrete, "rational," or "objective" sense as western science decrees, they have yet to be addressed in a more complete and wholistic manner through a rigorous methodology that incorporates not only biomedical or ecological perspectives, but also intuitive, spiritual, and other non-rational viewpoints.

Carpenter (1991) hints at this in her study of animal husbandry and agricultural systems in Pakistan. First, animal health entails much more than the "medical" treatment of sick animals - and healthy animals mean more to people than simply securing their own **physical** health. Healthy animals also foster mental well-being, confidence, and feelings of dignity, as well as emotional security. Of rural women's experiences in particular, Carpenter (1991: 67) comments:

> Tending milk animals means much more than duties completed or hours invested to women in Pakistan, more than activities completed or hours spent.

> Women profess to like raising milk animals, taking the same pride in them that men take in ripening fields...Owning a milk buffalo is a major source of izzat prestige and being able to serve guests milk and ghee that has not been borrowed or purchased is an important sign of this prestige.

Sharma (1980: 127-8) also notes in her work in Punjab and Himachal Pradesh, that women find the task of caring for cattle interesting and rewarding. It not only sometimes "affords real pleasure," but "apart from the utilitarian aspect of this work, (this is) an activity which clearly (gives) many women a real sense of achievement" (Sharma, 1980: 128). There is need for health systems research which embraces the inherent life-giving (or spiritual) energy within and between all forms of life and "non-life."

Finally, in an article which challenges the "enduring invisibility of women" in the semi-arid rangelands of Africa, Kettel (1992: 23) maintains that, "women's involvement in milk production is an important element in the strong sense of personal identity that frequently characterizes women in pastoral communities."

As Gupta (1992b: 21) maintains, in order to more fully understand a knowledge system and its associated science, we must not only deal "with utilitarian, evaluative, or analytic dimensions. We have also to look at cultural, spiritual, and historical aspect(s) of the knowledge at both the individual and collective level."

The following section briefly outlines the current state of animal health research and its place in relation to western science and the biomedical model. It attempts to demonstrate how a narrow conceptualization of health evolved out of the western science paradigm, ultimately disassociating humans from animals, plants, and their environment as well as separating out individuals from social, political, and economic contexts under the guise of an "objective, value-neutral" methodology.

II. Western Science and Ethnoveterinary Research

Conceptually, the discipline of "development-oriented" animal health research has for the most part, limited itself to a rather narrow exploration of ethnoveterinary "treatments."[5] Only recently has a broadening discipline acknowledged the daily efforts of "indigenous people" as part of a larger effort to maintain healthy animals and therefore healthy communities.[6] Further, little research has addressed the gender-disaggregated knowledge systems in animal health efforts (McCorkle, 1993a; Perezgrovas, 1993a; Young, 1993).

Practically, western-assisted efforts in livestock development have had disastrous and detrimental effects on both the people and the environments for which they were intended (Timberlake, 1986). In the Sahelian livestock sector alone, there is, as Horowitz (quoted in Timberlake, 1986: 92) states, "an almost unblemished record of project non-success." Many of the projects have been inappropriately conceived, designed, and implemented, ignoring local knowledge systems, and sociocultural and political factors in the process. Particularly lacking is any attempt to understand gender-disaggregated knowledge systems contextualized in age, class, and ethnicity.

Several ethnoveterinary studies have undertaken to document the ethnobotanical, pharmacological, toxicological and religio-magical practices of ethnoveterinary medicine.[7] In fact, pharmacology is probably the most studied aspect of ethnoveterinary research (McCorkle and Mathias-Mundy, 1992: 62). However, few studies have expanded the picture, to any extent, in order to examine the socio-cultural, political, or economic contexts in which these practices are situated. While some studies have addressed animal husbandry and cropping systems together, they have not necessarily included discussions of ethnoveterinary practices or animal health in particular (Fernandez, 1992; Carpenter, 1991; Poats et al, 1988). Still other studies have explored local and national health systems and policies either in terms of animal health (Leonard, 1993; Leonard, 1987; Iles, 1991; Grandin et al, 1991; de Haan and Bekure, 1991) or human health (Sindiga, 1992; Mshiu et al, 1990).

I argue that the reason for such splintered accounts can be traced to three trends in the research and development efforts:

- a reductionistic, mechanistic western science which equates health with presence or absence of disease, rather than broadening the equation to include daily activities, political, economic, and social stressors;

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[5] See Mathias-Mundy, E. and C.M. McCorkle, 1989 for ethnoveterinary research summaries.

[6] See IT Kenya, 1992; Grandin et al, 1991 for examples of community animal health programmes.

[7] See McCorkle and Mathias-Mundy, 1989; McCorkle, 1986; and McCorkle, 1989 for indepth overview of the ethnoveterinary literature.

- "professionalisation" of knowledge; and finally
- institutionalized biomedical paradigm in universities and other training institutions.

Evolution of a Gendered and Reductionistic Western Science

While there is increased interest in understanding "indigenous knowledge," "traditional health systems," and "agropastoral systems" as neatly compartmentalized realms of knowledge, there has been little effort to address these systems as one complex, yet intricate web of life. Much of this arises out of a tradition of mechanistic and reductionistic western science which has spun ever faster down a narrowing gyre, culminating in today's highly specialized disciplines such as cell biology, molecular biology, and epidemiology to name a few.

Feminist critiques of western science and technology help us to locate some of the inherent "difficulties" underlying the western science paradigm. They seek to support and legitimize women's and all people's (eg. indigenous people's) knowledge as "science" as well as their roles as agents of knowledge - in contrast to the dominant perspective within western science that continues to delegitimize other experiences of the world (Cashman, 1991; Rocheleau, 1991).

It is from this position that I embark on a "five minute history" of western science from a feminist perspective. The arguments under a feminist critique of science are as diverse as they are provocative. They are controversial both to western science and women from developing countries. However, the purpose of this discussion is to understand how we arrived at our present presumptions, hypotheses, approaches, and methodologies to research and development, and to begin to understand how a reductionistic, mechanistic, and gendered western scientific paradigm has led us to our current conceptualizations of health and development. Further, it is to highlight how a dominant western science came to disassociate humans not only from plants, animals, and the environment, but also from spiritual, intuitive perspectives of life, all the while pretending to be politically neutral.

As pursued by the "West", science has long been considered culturally universal and impartial, assuming a material world that is measurable by a process of objective observation, rational explanation, and structured experimentation (Harding, 1990). Feminist scientists, as well as scholars outside the sciences, have attempted to deconstruct the mechanistic, reductionistic, and androcentric nature of an assumed value-neutral science.

Like many other socially-constructed institutions, science is strongly gendered. Feminists argue that male power (specifically that held by a minority of elite western males) over science and technology is both a product of, and a reinforcement of, that power in other areas of society (Harding,1990; Fox Keller, 1988). Those holding positions of power and prestige have control not only over the direction of science and technology, but also over

society - particularly women, as witnessed by recent directions in invasive reproductive technologies that treat women as medical objects to be dissected, explored, and controlled, eg) invitro fertilization, surrogacy, and contraceptive technologies (Hynes, 1989b).

Western science has not only excluded women and other (indigenous) people, but throughout its evolution, it has effectively silenced them, appropriated their knowledge, and rendered them invisible either through language or by action. In his history of western science's exclusion of women, Noble (1992b) looks to the early roots of western science for answers as to why science has evolved the way it has. He writes:

> Because so many of its early practitioners belonged to the ascetic mendicant orders (of the church), Western science took root in an exclusively male--and celibate, homosocial, and misogynous culture, one centred on the conviction that closeness to God required forsaking the body and living in a world without women.

Having appropriated much of the knowledge of healing, divining, and other such practices of village women, the church and its associated universities and other establishments embarked on "gender-bound genocide" otherwise known as a "witch-hunt" (Noble, 1992: 55-57). In the sixteenth and seventeenth centuries, millions of European and North American women were executed or imprisoned as "witches." Their knowledge and healing practices were delegitimized by increasingly male-controlled and defined science. Noble (1992: 57) continues:

> The clergy (of the 17th century) resolutely denied that nature might be a medium of religious illumination. Instead, they elaborated on the mechanical world view their medieval counterparts had developed, withdrawing into the abstract certainties of mathematics and irrevocably divorcing spirit from earth, mind from body, subject from object, male from female. These new men of God sought spiritual and intellectual order, and like their glorious forbears, they found such order, and a lasting refuge, in a world without women.

Both ideologically and culturally, the domain of western science was thus preserved for male, professional scientists who "legitimized themselves as society's sole authorities in the **understanding of life, nature, the cosmos, and a now largely unspoken God**" (Noble, 1992b: 60). Those privileged few entrenched western science as the only "legitimate" process for "explaining the world." Through colonialism and later post-war development and its associated technology innovations and transfers to developing countries, western science marginalized all other "sciences." As Cashman (1991: 55) argues, "objectivity, reason, and empiricism used to justify science in western culture, appear(s) to function the same way that revelation, divine inspiration and mythology explain the world's religions...To challenge the dogma of western science is almost as heretical as the past church challenges."

Feminist analysis argues that science is neither impartial nor value-free, but rather part of a larger social construction of reality influenced by struggles for personal, organizational and national, or global power (Harding, 1990; Haraway, 1988; Fox Keller, 1988; Parpart, 1993). This is clearly demonstrated by an institution which favours support for high-profile projects such as the space programme which brings great prestige to a country, and bio-medical research which offers enormous profits to pharmaceutical companies - rather than for less-alluring or less profitable pursuits such as poverty alleviation or true sustainable development that ensures a secure life for all citizens of the earth as well as their environment.

In terms of human and animal health, McCorkle (1992: 3) synthesizes the path down which we have travelled and suggests a new direction in which we must move to ensure a more wholistic approach. While she speaks of rural systems in general, she obviates the necessity for examining all areas together.

> Taken together, agronomy, animal science, and sociology/anthropology - with their avowedly distinct interest in plants, animals, and people -- exemplify disciplinary reductionism. Ultimately, of course, these broad differences in scientific focus are what define a discipline. Such boundaries are drawn because they are necessary for the practical conduct of research and the derivation of nomothetic principles. However, it is easy to forget that they are in fact artificial constructs, created for a delimited scientific purpose and a highly abstract level of analysis. **At the farm level, disciplinary boundaries blur back into a complex, commingled reality wherein plants and animals are intimately intertwined parts of a systemic whole that forms the foundation of an agropastoral people's very existence.**

The "Professionalisation" of Knowledge

Second, western science, consumed by its passion for "professions," has attempted to view knowledge and activities in terms of tightly bounded disciplines. This has created two problems, first that of a tendency to ignore or render invisible all other "knowledge systems" not legitimated by a stamp of approval, certification, or other professional standard. Further, it has created a situation whereby "professionals" often **cannot** see the daily "duties" or "chores" such as collecting fodder or water as health issues per se. As Rocheleau (1991: 157) maintains, the international scientific and development communities have tended to either "ignore rural people's science or have separated it from the larger context of daily life, labour, and livelihoods."

Animal health professionals have tended to focus on efforts such as improving (biomedical) inoculation programs and cattle-dip programs rather than look to indigenous

efforts for answers.[8] Even now, economists, policy analysts, and managerial types alike continue to address the issues from a tired old perspective of "If we just increase the incentive, motivation, competition, etc., the situation will improve." Leonard (1987; 1993) exemplifies the continued "market-driven" economic analyses and "econofixes" still prevalent in the literature.

Thus, for the most part, there seems to have been a conceptual separation of "health" issues from daily activities. In contrast, herding strategies such as those found in Africa and typical of an "ecological approach" to disease prevention (Ford, 1971; Schillhorn van Veen, 1986; in McCorkle and Mathias-Mundy, 1992: 66) have been conceptualized primarily as a "livelihood" issue. Only recently has ethnoveterinary research and development started to move to what McCorkle (1989a: 156) says should "consist...of the systematic investigation and practical application of (ethno)veterinary knowledge, theory and practice within a holistic but comparative and production-system-specific framework."

"Institutionalising Institutions"

Finally, there is the institutional learning model[9] which has typically valued and promoted the biomedical model of health. In her call for a feminist political economy approach to science, technology, and development, Stamp (1989: 30) alludes to the problematique of the biomedical paradigm. She writes:

> Sometimes, (the specialist compartmentalization of health and nutrition) is a result of the structural requirements of specialist knowledge, but more often, it is caused by unexamined assumptions on the appropriateness of Western medical practices and nutrition inventories.

As a relatively new field, ethnoveterinary research has drawn from the "medical" fields and paradigms of epidemiology, immunology, microbiology, parasitology, pathology, pharmacology, and physiology (McCorkle, 1989a: 156). Of course, it has also drawn from sociocultural anthropology, linguistics, animal husbandry, agricultural economics, etc. (McCorkle, 1989a) but again - until recently, these fields were heavily influenced by dominant underlying western scientific paradigms (conceived for the most part by a small group of elite scholars).

I argue that it is only with feminist anthropology (Moore, 1988) and Gender and Development (GAD) work that these fields have begun to loosen their constricted conceptual

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[8] A detrimental side-effect of toxic (pesticidal) cattle dips and their residual effects is that some beneficial species of wild birds (eg. oxpecker) have been driven almost to extinction (Glen-Leary, 1990; McCorkle and Mathias-Mundy, 1992: 68).

[9] Cashman (1991: 49) maintains that, "knowledge creation for large institutions leaves underlying paradigms of western science-based development unquestioned."

barriers[10] demanding a revisitation of the problems encountered. Only in the last five years or so, with a growing interest in sustainable development, environment, and gender, (Rocheleau, 1991) has there been an increased effort to reach beyond the biomedical model.

[10] See Young, 1989; Stamp, 1989; Maguire, 1984; and Moser, 1989) for broad overviews of the changing GAD environment.

III. Gender, Wellness, and EV Research

> Focusing on the nature and origin of women's knowledge is a political act, but the masculine bias so evident in most research and development efforts is also political (Cashman, 1991:56).

As noted earlier, less research has addressed gender-disaggregated knowledge of animal health systems. As Rocheleau (1991: 156) argues, in order to develop a more complete science, it is necessary to question the "suppression, neglect (and) even the extractive collection of women's ethnoscientific information." She cautions, however, that in the quest to "document" women's ecological (and hence medical) knowledge, we must avoid simply cataloguing "discrete 'bits' of knowledge." In turn, she argues for a case of "comprehending the whole system...and the value of contextualizing understanding and documentation of whole knowledge systems...(including) dying traditions" (Rocheleau, 1991: 158).

Young (1993), Perezgrovas (1993b), and McCorkle (1993) all agree that research has neglected to examine the gender-disaggregated knowledge bases of animal health and associated agropastoral practices. A quick glance through Mathias-Mundy's and McCorkle's (1989) bibliography on Ethnoveterinary Medicine produces less than five annotated references out of 237 which mention "women." While there is little mention of "women" per se, there is no mention of gender-disaggregated knowledge whatsoever.

Only a handful of projects have addressed, or are addressing, women's knowledge in animal health systems specifically. These include the University of Chiapas' work with the Tzotzil shepherdesses and their sheep (Perezgrovas, 1993: 23), the Indian Institute of Management's recently approved Gandhian vidya peeth program looking at various aspects of local knowledge systems in livestock management (Gupta, 1993), and IT Kenya's work in Samburu (Young, 1993). Munachongwa (1993) recently completed a more complete study of the area under the auspices of the WEDNET project funded by IDRC.

However, to focus on "gender" is not to focus **only** on women's knowledge and roles. To do so is to fall once more into the old WID (Women in Development) trap.[11] It is, in turn, to focus on the socially-constructed relationships and expectations of women and men dependent on their age, class, religion, and ethnicity. I caution however, that anomalies exist in every culture and that the specific situation is arguably more complex than any generalities outlined in GAD frameworks.

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[11] See Maguire, 1984; Rathgeber, 1990; Moser, 1989; Young, 1986 for WID, WAD, and GAD history.

To work within a gender-informed, or what some might term a feminist, framework[12] is to "make visible what other perspectives do not" (Fox Keller, 1988: 244). In justifying my approach to the question of gender-disaggregated knowledge in animal health systems, I look to Fox Keller for support:

> We cannot understand the relation between language, ideology, and scientific theory if we have to choose among gender, class, relative 'might', and 'just plain truth' as determining causes, nor even if we have to invoke some notion of multicausality precisely because these are not independent categories. The very interdependence of gender, class, relative 'might' and 'truth' requires us to invoke a model of multiple dialectic, or interactive causation, which in turn, simply by virtue of its departure from conventional models, signals a second source of difficulty some people have had with gender-focused analyses. Many social scientists, accustomed to the simple causal model of explanation prevalent in the natural sciences, assume that when feminists privilege gender as an analytic category, they are necessarily making a claim for the causal primacy of gender in social formations (Fox Keller, 1988: 244-245).

McCorkle (in process: 17) comes the closest to "invoking a model of multiple dialectics" as she rejects disembodied categories of 'men,' 'women' and 'children'. She explains that,

> it is impossible to define females' (or males') place in and actual and potential contributions to (any domain of human activity) independent of the human groupings of which they are members and that together actualize a shared adaptation to a given human and biophysical environment. For equitable, efficient, and sustainable development to take place, such categories **must** be operationalized in terms of on-the-ground social and economic groupings (and re-groupings) of females and males of different ages in terms of their corresponding roles, rights, and responsibilities. Of course, very distinct patterns of decision-making power, administrative responsibility, techno-ecological expertise, and task implementation are found cross-culturally (McCorkle, in process: 17).

Clearly, addressing health or "wellness" from these perspectives begins to make the "invisible" visible. It brings to the foreground not only so-called gender-related health activities, but also paves the way for a discussion of the hegemonic political, social, and economic stressors on animal and human health systems.

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[12] This paper assumes that there are many feminist perspectives. The perspective presented in this paper is one perspective, based on the author's experiences and readings in the area.

However, while McCorkle argues that certain social, economic, and political patterns are found cross-culturally, it is important to remember that there are also cultural anomalies that must be addresed. For example, as Oboler (1985, 131-132, repeated in Kettel, 1992) points out regarding "female husbands" among the Nandi,

> A postmenopausal, sonless woman uses some of her house property to pay bridewealth for, and thus marry, a younger woman. The two women are considered husband and wife, and the older woman becomes the social and legal father of any children her wife may bear. The female husband is...'promoted' to male status.

Clearly, gender should not be seen as a universal characteristic, but should be examined in a locally- and historically-specific context appropriate to the community in question.

Thus said, the following examples indicate the diversity of gender-disaggregated knowledge systems pertaining to animal health care. Fernandez (1992: 103-105) outlines the particular case of the Aramachy area of Peru's Mantaro Valley. While complex mixed farming systems have led to a division of production so that men take greater responsibility for the agricultural sector - with greater knowledge of soil quality, rotation patterns, and cultivation potentials; and women's expert knowledge of animal husbandry, particularly health, nutrition and reproduction - the issue is not so clearcut.

Fernandez (1992: 103) maintains that "a distinction must be drawn here between decisions that span both the crop and the livestock sector and affect planning for the farm unit as a whole versus daily management decisions within sectors. In the former, all adult members are involved, regardless of gender. She adds that, "sector managers for both have at least a general working knowledge of all other components of the agropastoral system (Fernandez, 1992: 104).

Once again, referring to Carpenter's (1991: 70-71) case study of Pakistan, she notes that "women's and men's parts in the household economy are not separate but linked...closely." Gender-disaggregation of activities is also further distinguished by whether animals are stall-fed or grazed (Carpenter, 1991: 69). While grazing animals is usually done by men, women usually provide labour in stall-fed situations. There are cases where women often supervise the boys tending grazing animals and other certain groups of women - particularly girls, older women, and poorer women graze animals themselves (Carpenter, 1991: 69). Importantly, Carpenter (1991: 71) adds that in India, caste tends to take over the "agricultural pastoral" relationship that is more commonly expressed through a gender division in Pakistan.

Unquestionably, the matter of gender-disaggregated knowledge in so-called animal health systems is a complex one. In attempting to understand the gender relations responsible for maintaining a healthy community and in turn, healthy animals, it is clear that there are numerous forces exogenous to the community influencing the abilities to maintain

healthy animals, healthy communities, and general "wellness" as defined by the community and the individuals therein.

In order to avoid once again decontextualizing women's knowledge, it is critical to not only "catalogue discrete bits of knowledge," but to position that knowledge in the wider realm of local, national, and international social, political, and economic forces. Not only does the global economy influence the activities of "women and their goats," but so too do the associated scientific professions, with their "techno-solutions," and pharmaceutical companies, ever ready to pounce on some "new" remedy to increase their profit margins and maintain their "competitiveness" in the global market.

I turn now to a discussion of the implications for future ethnoveterinary research and the particular focus of gender-disaggregated knowledge of animal health systems.

IV. Implications for Future Research

While few projects have addressed gender-disaggregated knowledge systems in animal health, there remain fundamentally greater questions which have yet to be addressed in the research agenda. In examining the gender-disaggregation of knowledge systems pertaining to animal health, how do we avoid yet again disassociating bodies of knowledge and experience from the interconnected and interdependent system that is life? In turn, how do we redefine the parameters of a western definition of "health" to better appreciate and sustain the linkages of animals, plants, and the environment in general, with human socio-cultural, economic, and political systems?

Clearly there are many research and policy ramifications at issue here. The implications for partaking of research into gender-disaggregated knowledge of animal health and production are far-reaching. Let us first remember that research should never be a case of simply "parachuting" into a community - PRA, RRA or some other "RA toolkit" of convenient methods in hand, ready to talk to the first women we meet...because they are women.

First, we must be very clear about what we mean by "gender-disaggregated knowledge systems." Next, it is **essential** to clarify the parameters of our conceptualization of "health." That said, we must address the potential implications of the research.

If the study is merely "to collect women's indigenous knowledge of animal health and production systems," it suffers the likelihood of failure at both the analysis and action stage. There are several inherent problems in this approach. First, it ignores the "fact" that women live within a wider context of social, political, and economic pressures and trends at local, national, **and** global levels. To decontextualize women's knowledge is to repeat past mistakes that rendered women invisible. Using this approach, women become visible, but their context is then rendered invisible.

It is also to risk ignoring the political, economic, and social implications of the research. There are always TNC's waiting down the path to follow up on "documented indigenous knowledge," whomever it may "belong" to at first. If a proposed goal of documenting women's indigenous knowledge of animal health practices is to empower women, then it is **essential** to address the potential interests, actors, and scenarios associated with such an effort.

As noted earlier, western nations are in the process of pushing through legislation which would further entrench Intellectual Property Rights (IPR) in favour of trans-national corporations (TNCs). While many developing countries are also exploring this avenue, past experience (eg. Green Revolution) indicates that people, especially women, at the local rural level, whose time-tested innovations are the source for much western scienctific exploration, will once again suffer. Rather than empower women at the local level, cataloguing knowledge without first establishing checks and balances against TNCs and debt-ridden

governments eager to "sell off" their biodiversity, will only serve to more deeply impoverish them and create a more desperate "survival" strategy. While the FAO has attempted to counter the IPR movement by establishing Farmer's Rights, the move to date has been rather ineffective.

As Cashman (1991) illustrates, focusing on women's knowledge is a political act. She cautions that "message production is outside local control and adaptation may involve a process whereby (power groups such as pharmaceutical companies) seek to exploit others" (Cashman, 1991). Rocheleau (1991: 158) has cautioned against the potential for "women's science being packaged as a product and collected, owned, and sold in the 'market place of ideas' of the scientific community."

In a more general sense, we should consider Sollod and Stem's (1991: 92) warning and question the "good intentions" of research as they maintain that while tens of millions of dollars are spent on (mostly) laboratory research on trypanosomiasis, the underlying "intent of government policy (is often) the suppression of pastoralism."

Clearly the political impacts on, or interests of, not only animal health projects, but all development efforts must be addressed. As suggested by the following comments, it is clear to see that avoiding political, economic, and social contexts in animal health efforts will be ineffectual at best and threatening to the community at worst. Horowitz (as quoted in Timberlake, 1986: 92) cautions that in the case of Africa, "the ruling elites (have for the most part been) drawn from groups which are not only **not** pastoral, but which have historically viewed pastoral people with ambivalence at best, and often outright hostility."

There has been a call for increased paravet programmes as well as increased animal health training certification for women. However, as Iles (1991) pointed out, community members would often rather treat their own animals to save on costs. While paravet or "traditional animal health" practitioners have been effective in many areas, the question of training and certification should be discussed with the communities in question.

Many communities have their own ideas of who should be trained in delivering health services and those wishes should be respected. The case for training "women" per se is not so clear cut. As I have pointed out earlier, there is generally a coordinated effort by both men and women, young and old, to maintain the health of their animals. While some members (possibly gender-differentiated) hold specific knowledge of a specific area of an animal health system, the whole community usually has some **general** knowledge of the system in question. We cannot assume that women alone hold some specific knowledge that is crucial to the survival of their animals and their communities.

Neither can we assume that animal health systems exist alone. Rather, as Freedman and Wai (1988) argue, "crop and animal production cannot be considered as separate systems...the interface betweem the two systems is fundamental to the viability of the entire

farming system." The areas are intricately interwoven and interdependent, as are the human knowledge systems which sustain the systems.

Likewise, before we rush to certify healers, let us first ask them if this is what they want and what they need, or whether they would suggest alternatives. While certification might provide one avenue for "legitimizing" the activities of healers, we must ask, "in whose eyes is the legitimacy necessary?" Too often, under a western science-dominated world, we run to yet again "professionalize" another realm of knowledge or afix a stamp of approval, yet we seldom ask other (ie. non-western or indigenous) people if this is what they want and need. While we eagerly move to certify certain healers, do we run the risk of subsequently disempowering all other healers who are, in the eyes of their own communities, "legitimate."

These questions must be addressed in any research efforts along with the many interests influencing the state of health or "wellness in the community." Only in questioning the underlying assumptions and ideologies of our so-called development efforts, can we begin to move to more sustainable "health" systems which are locally-appropriate and which consider the social, political, and economic stressors in the equation. In doing so, we can begin to transcend the tight confines of a western science and associated biomedical model which has, for too long, constrained our efforts to understand and enrich other effective and time-tested approaches to health and wellness, ones which embody both the interconnectedness of physical and mental well-being; and the interconnectedness of all living and non-living beings.

Finally, in order to restore wellness to a "dis-eased" earth, ie. an earth that is ill at ease, we must find ways to invert the gyre of knowledge in our redefinition of "health." One way to do this is to examine the intricate links between all sentient and non-sentient beings. In examining gender-disaggregated knowledge systems of animal health, perhaps the most crucial gap is that which encapsulates a heightened recognition and legitimation of "traditional knowledge systems" with a revisitation of the systems and structures which have developed under a western, capitalist-supported and directed science.

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